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1965 INDEX OF RESEARCH GRANT PUBLICATIONS AND REPORTS

Federal Water Pollution Control Administration
Washington, D.C.

1965

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Water Pollution Control Research and Training Grants

1965 INDEX

RESEARCH GRANT PUBLICATIONS AND REPORTS

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U. S. DEPARTMENT OF THE INTERIOR

Federal Water Pollution Control Administration

Washington, D. C. 20242

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FOREWORD

The Federal Water Pollution Control Act authorizes the award of grants-in-aid for research projects relating to the causes, control, and prevention of water pollution.

Purposes

The water pollution control research grant program was initiated in 1962 with the award of 159 grants, and by 1965 the program increased to 242 awards. These awards support projects conducted principally by investigators in educational institutions throughout the Nation, in State agencies, and by individuals.

Research grants are awarded for the conduct of basic and applied research projects. The research studies extend over a wide variety of engineering fields, and include many biological, physical, and social science disciplines.

Accomplishments

The principal accomplishment resulting from research grant support is the development of new information which is reported in the technical literature. The information provides tools to assist scientists and engineers in solving critical problems of water pollution control.

Publications

Investigators supported by research grants are expected to make the results of their research promptly available to the scientific public. Publication provides the most efficient means of communicating information about current research efforts.

The "1965 Index of Research Grant Publications and Reports" includes a total of 432 references to recent research supported by research grants. The value of this research information will be determined by the extent to which it is applied in the total research and development effort for controlling water pollution problems.

An asterisk (*) preceding a reference identifies a publication or report which should have been included in the 1962-1964 Index.

WATER POLLUTION CONTROL

RESEARCH GRANT PUBLICATIONS AND REPORTS

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INTRODUCTION

The "Index of Research Grant Publications and Reports" is a source document for the retrieval of references to the known literature which has resulted from research grants awarded under the Federal Water Pollution Control Act. The first Index, published in 1966, included 545 references to publications and reports for the years 1962-1964.

Numerical List. Each research grant is identified by the grant number, and the project title, project director, and grantee institution or agency. The bibliographic references which follow are publications and reports produced under grant support. (Pages 1-45).

Index to Project Directors. An alphabetical list of project directors identifies the appropriate grant number for searching the numerical list to locate projects, publications, and reports when the project director is known. (Pages 46-48).

Index to Authors. An alphabetical list of authors identifies the appropriate grant number for searching the numerical list to locate publications, reports, and project titles when the author is known. (Pages 49-54).

Index to Research Subjects. A subject index of key terms identifies the appropriate grant number for searching the numerical list to locate research subjects. This index is keyed to research subjects whether they apply to the project title or to bibliographic references. (Pages 55-64).

The "Index" is designed to provide a useful record of the literature references credited to water pollution control research grant projects, and to facilitate communication between investigators. The 432 references to publications and reports have resulted from 180 projects, an average of 2.4 per grant.

It is recognized that this second "Index" cannot present a complete listing of all publications and reports derived from research grant projects. The "Index" is to be issued annually and made as comprehensive as possible. The assistance of all individuals who can provide additional references will be appreciated. Address correspondence to:

Division of Grants Management
Federal Water Pollution Control Administration
633 Indiana Avenue, N. W.
Washington, D. C. 20242

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WATER POLLUTION CONTROL

RESEARCH GRANT PUBLICATIONS AND REPORTS

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NUMERICAL LIST

GRANT NO.	PROJECT TITLE AND PUBLICATIONS	PROJECT DIRECTOR AND LOCATION
WP-00003	TOXICITY OF PESTICIDES TO AQUATIC INVERTEBRATES	Dr. Arden R. Gaufin, Div. Biological Sciences, University of Utah, Salt Lake City, Utah
	Gaufin, A. R., Jensen, L. D., Nebeker, A. V., Nelson, T. and Teel, R. W. "The Toxicity of Ten Organic Insecticides to Various Aquatic Invertebrates." Water and Sewage Works. July 1965.	
	Warnick, S. L. and Gaufin, A. R. "Determination of Pesticides by Electron Capture Gas Chromatography." JAWWA Vol. 57, No. 8, Aug. 1965.	
WP-00005	A STUDY OF MICROORGANISMS INDUCING TASTES AND ODORS IN WATER	Dr. R. P. Collins, Dept. of Botany, University of Connecticut, Storrs, Conn.
	Collins, R. P. and Kalnins, K. "Volatile Constituents of Synura petersenii I. The Carbonyl Fraction." Lloydia. Vol. 28, No. 1, Mar. 1965.	
	Collins, R. P. and Kalnins, K. "Volatile Constituents Produced by the Alga Synura petersenii." Int'l. J. Air & Water Pollution 9:501-504. 1965.	
WP-00008	GAS TRANSFER TO AND FROM TURBULENT LIQUIDS	Dr. W. E. Dobbins, Dept. of Civil Engr., New York University, New York, N. Y.
	Dobbins, W. E. "Diffusion and Mixing." J. Boston Soc. of Civil Eng. Vol. 52, No. 2. April 1965.	
WP-00009	ENTERIC BACTERIA AND VIRUSES IN SEWAGE, WATER AND SHELLFISH	Dr. L. W. Slanetz, Dept. of Microbiology, University of New Hampshire, Durham, N.H.
	Carlson, V. L. "A Comparison of Temperatures and Techniques for the Quantitative Recovery of Fecal Coliforms from Water." M. S. Thesis, U. of New Hampshire, 1965.	
	Metcalf, T. G. and Stiles, W. C. "Accumulation of Enteric Virus by the Eastern Oyster Crassostrea virginica." J. Inf. Dis. 115:68-76, 1965.	
	Slanetz, L. W. and Bartley, C. H. "Survival of Fecal Streptococci in Sea Water." Health Laboratory Sci. 2(3):142, 1965.	

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GRANT NO.	PROJECT TITLE AND PUBLICATIONS	PROJECT DIRECTOR AND LOCATION
WP-00010	USE OF FISH TO DETECT ORGANIC INSECTICIDES IN WATER	Dr. C. M. Weiss, Dept. of Environmental Science and Engineering, University of North Carolina, Chapel Hill, N. C.
	Weiss, C. M. "Use of Fish to Detect Insecticides in Water." J. Water Pollution Control Fed., Vol. 36, No. 5, May 1965.	
WP-00011	A STUDY OF FUNDAMENTAL PRODUCTIVITY IN A STREAM	Dr. R. C. Ball, Dept. of Fisheries and Wildlife, Michigan State University, East Lansing, Michigan
	Kevern, N. R. and Ball, R. C. "Primary Productivity and Energy Relationships in Artificial Streams." Limnol. and Ocean. 10(1), 1965.	
	*King, D. and Ball, R. C. "A Quantitative Biological Measure of Stream Pollution." J. Water Pollution Control Fed. Vol. 36, No. 5, May 1964.	
	*King,, D. and Ball, R. C. "The Influence of Highway Construction on a Stream." Res. Report 19. Mich. State U. Ag. Exp. Sta. 1964.	
	Linton, K. J. and Ball, R. C. "A Study of the Fish Populations in a Warmwater Stream." Mich. State U. Qtly. Bull. 48:255-285. 1965.	
WP-00013	OXYGENATION RATE OF FERROUS IRON IN NATURAL WATERS	Dr. Werner Stumm, Div. of Engr. and Applied Physics, Harvard University, Cambridge, Massachusetts
	Morgan, J. J., and Stumm, W. "Analytical Chemistry of Aqueous Manganese." JAWWA, Vol. 57, No. 1, Jan. 1965.	
WP-00016	MICROBIOLOGY OF THE DILUTE ENRICHMENT	Dr. R. S. Wolfe, Dept. of Microbiology, University of Illinois, Urbana, Illinois
	Wood, J. M., Allam, A. M., Brill, W. J. and Wolfe, R. S. "Formation of Methane from Serine by Cell-free Extracts of Methanobacillus omelianskii." J. Biol. Chem. 240, 4564-4569. 1965.	
	Wood, J. S. and Wolfe, R. S. "Formation of CH_4 from N^5 - Methyltetrahydrofolate Monoglutamate by Cell Extracts of Methanobacillus omelianskii." Biochem. Biophys. Res. Comm. 19, 306-311. 1965.	

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GRANT NO.	PROJECT TITLE AND PUBLICATIONS	PROJECT DIRECTOR AND LOCATION
WP-00017	FUNDAMENTAL FACTORS IN TREATMENT OF IRON-BEARING WATERS	Dr. R. S. Engelbrecht, Dept. of Civil Engr., University of Illinois, Urbana, Illinois

Engelbrecht, R. S., O'Connor, J. T., and Ghosh, M. M. "Significance and Removal of Iron in Water Supplies." Proc. 4th San. and Water Resources Eng. Conf., Vanderbilt U., June 1965.

Ghosh, M. M. "Filtration as Related to the Removal of Iron from Ground Waters." Ph.D. Thesis. U. of Ill., Oct. 1965.

O'Connor, J. T., Engelbrecht, R. S. and Ghosh, M. M. "Removal of Iron from Ground Waters." Proc. Symp. on Acid Mine Research, Penn. State U., June 1965.

O'Connor, J. T., Komolrit, K., and Engelbrecht, R. S. "Evaluation of the Orthophenanthroline Method for Ferrous-Iron Determination." JAWWA, Vol. 57, No. 7, July 1965.

WP-00018	FATE OF SYNTHETIC DETERGENTS IN SOIL AND GROUND WATER	Dr. Ben B. Ewing, Dept. of Civil Engr., University of Illinois, Urbana, Illinois

Banerji, S. K. and Ewing, B. B. "Fate of Synthetic Detergents in Soils and Ground Water." Civil Eng. Studies, San. Eng. Series No. 33, U. of Ill., Nov. 1965.

WP-00022	RELATION OF TREATMENT METHODS TO SUSPENDED MATTER IN WATER	Mr. Harvey F. Ludwig, President Engineering-Science Research Foundation Oakland, California

Kim, W., Ludwig, H. F. and Bishop, W. D. "Cation-Exchange Capacity and pH in the Coagulation Process." JAWWA, Vol. 57, No. 3, March 1965.

WP-00023	ENVIRONMENTAL RELATIONSHIPS OF BENTHOS IN SALT PONDS	Dr. C. J. Fish, Graduate School of Oceanography, University of Rhode Island, Kingston, Rhode Island

Conover, J. T. and Sieburth, J. McN. "Sargassum Tannin, an Antiobiotic Which Retards Fouling." Nature, 208:52-53. 1965.

Dillon, W. P. and Conover, J. T. "Ice Cemented Sandstone With Lithologic Implications." J. Sed. Pet., Oct. 1965.

WP-00026	NUTRITIVE AND DISEASE TRANSMITTING POTENTIAL OF SEWAGE GROWN ALGAE	Dr. William J. Oswald, Inst. of Engr. Research, University of California, Berkeley, California

Cooper, R. C., Oswald, W. J. and Bronson, J. C. "Treatment of Industrial Wastes by Lagooning." Proc. 20th Ann. Purdue Industrial Waste Conf., May 4, 1965.

Golueke, C. G., Oswald, W. J. and Gee, H. K. "Harvesting and Processing Sewage-Grown Planktonic Algae." J. Water Pollution Control Fed., April 1965.

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WP-00026 Cont.	NUTRITIVE AND DISEASE TRANSMITTING POTENTIAL OF SEWAGE GROWN ALGAE	Dr. William J. Oswald, Inst. of Engr. Research, University of California, Berkeley, California

Oswald, W. J. "Progress in Stabilization Pond Research." Pres. at Water Pollution Ecology Conf., Berkeley, Calif., Aug. 4, 1965.

Oswald, W. J. and Golueke, C. G. "Algae Production From Waste." Proc. 18th Ann. Calif. Animal Industry Conf., Oct. 25, 1965.

Oswald, W. J. and Golueke, C. G. "Eutrophication Trends in the United States, A Problem?" Pres. at Water Pollution Control Fed. Meet., Oct. 11, 1965.

WP-00027	MULTIPURPOSE MANAGEMENT TECHNIQUES FOR REUSABLE WATER	Dr. Don M. Rees, Div. of Biological Sciences, University of Utah, Salt Lake City, Utah

Andersen, D. M. and Rees, D. M. "Conclusions to Date from Cooperative Multipurpose Water Management Studies Conducted in Utah." Proc. 18th Ann. Meet., Utah Mosquito Abatement Assn. 1965.

Rees, D. M., Arnold, F. D., Andersen, D. M. and Collett, G. C. "Development of Techniques for Multipurpose Management of Reusable Water Before It Enters the Great Salt Lake." 1964 Ann. Report, No. 3, 1965.

WP-00029	MULTIPURPOSE MODIFICATION OF PLAYA SINKS	Dr. David M. Cowgill, City Health Dept., P.O.Box 998, Lubbock, Texas

Forehand, C. E. "The Fate of Pesticides Applied to Lake Beds and Surrounding Water Sheds." Thesis, Texas Tech. 1965.

Reddell, D. L. "Water Resources of Playa Lakes." The Cross Section 12(3): pp. 1-2. A monthly publication of the High Plains Underground Water Conservation District No. 1. 1965.

WP-00032	DESIGN CRITERIA FOR LIVESTOCK WASTE LAGOONS	Dr. E. A. Jeffrey, Dept. of Sanitary Engineering, University of Missouri, Columbia, Missouri

Jeffrey, E. A., Blackman, W. C., Jr. and Ricketts, R. "Treatment of Livestock Wastes - A Laboratory Study." Trans. Amer. Soc. of Agric. Eng., Vol. 8, No. 1, 1965.

WP-00034	WATER POLLUTION BY PLANKTON AND BACTERIA	Dr. Arden R. Gaufin, Div. Biological Sciences, University of Utah, Salt Lake City, Utah

Knight, A. W. and Gaufin, A. R. "Function of Stonefly Gills Under Reduced Dissolved Oxygen Concentration." Utah Acad. of Sciences, Arts, and Letters. 42(2), 1965.

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WP-00034 Cont.	WATER POLLUTION BY PLANKTON AND BACTERIA	Dr. Arden R. Gaufin, Div. Biological Sciences, University of Utah, Salt Lake City, Utah
	Knight, A. W., Nebeker, A. V., and Gaufin, A. R. "Description of the Eggs of Common Plecoptera of Western United States." Ent. News 76 (4), 1965.	
	Knight, A. W., Nebeker, A. V. and Gaufin, A. R. "Further Descriptions of the Eggs of Plecoptera of Western United States." Ent. News 76 (9) 1965.	
	Nebeker, A. V. and Gaufin, A. R. "The Capnia Columbiana Complex of North America (Capneidae: Plecoptera)." Trans. Amer. Ent. Soc. 91:467-487. 1965.	
WP-00040	WATER RECLAMATION FROM SEWAGE BY SOLVENT EXTRACTION	Professor Ervin Hindin, Div. of Industrial Research, Washington State University, Pullman, Washington
	*Hindin, E., and Dunstan, G. H. "Water Reclamation from Sewage by Solvent Extraction." Wash. State U. Div. of Indust. Research. Report No. 63/12-162. Dec. 1, 1963.	
WP-00041	EQUALIZATION OF LIQUID WASTES	Professor Ivan Metzger, Dept. of Civil Engineering, Newark College of Engr., Newark, New Jersey
	Metzger, I. "Equalization of Liquid Wastes." Final Prog. Report, 1965.	
WP-00043	MODES OF CORROSION INHIBITION IN NATURAL WATERS	Dr. Werner Stumm, Dept. of San. Engr., Harvard University, Cambridge, Mass.
	Weber, W. J., Jr. and Stumm, W. "Formation of a Silicato-iron(III) Complex in Aqueous Solution." J. Inorganic Nuclear Chem., Vol. 27, pp. 237-239. 1965.	
WP-00046	COMPREHENSIVE STUDY OF OCEAN OUTFALL DIFFUSERS	Dr. Charles E. Behlke, Dept. of Civil Engineering, Oregon State University, Corvallis, Oregon
	*Buford, G. M. "Jet Diffusion as Related to Ocean Outfall Systems." M. S. Thesis, Oregon State U., Aug. 1963.	
	*Ryan, W. L. "Characteristics of Jet Diffusers for Ocean Outfalls." M. S. Thesis, Oregon State U., 1962.	
WP-00047	FACTORS INFLUENCING FREE-LIVING NEMATODES IN WATER	Dr. R. S. Engelbrecht, Dept. of Civil Engineering, University of Illinois, Urbana, Illinois
	Chaudhuri, N., Engelbrecht, R. S. and Austin, J. H. "Nematodes in an Aerobic Waste Treatment Plant." JAWWA, Vol. 57, No. 12, Dec. 1965.	

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WP-00047 Cont.	FACTORS INFLUENCING FREE-LIVING NEMATODES IN WATER	Dr. R. S. Engelbrecht, Dept. of Civil Engr., University of Illinois, Urbana, Illinois
	Engelbrecht, R. S. and Austin, J. H. "Detecting Nematodes in Public Water Supplies." Water & Sewage Works, Vol. 112, Feb. 1965.	
	Peterson, R. L. "Removal of Free-Living Nematodes by Rapid Sand Filters." M. S. Thesis, U. of Ill., May 1965.	
WP-00051	HYDROLOGIC PROPERTIES OF FOREST HUMUS TYPES	Dr. Stanley P. Gessel, Dept. of Forestry, University of Washington, Seattle, Wash.
	Gessel, S. P. and Balci, A. N. "Amount and Composition of Forest Floors Under Washington Coniferous Forests." In Forest-Soil Relationships in North America, Oregon State U. Press, Corvallis, 1965.	
	Gessel, S. P. and Cole, D. W. "Influence of Removal of Forest Cover on Movement of Water and Associated Elements Through Soil." JAWWA, Vol. 57, No. 10, Oct. 1965.	
WP-00055	NEMATODES IN SEWAGE AND SEWAGE TREATMENT FACILITIES	Professor James V. Walters, Dept. of Civil Engineering, University of Alabama, University, Alabama
	Walther, H. J. "A Methodology for Evaluating the Effect of Sewage Treatment Systems Upon Nematodes." Thesis. U. of Alabama. 1965.	
WP-00057	FLUORESCENT TRACING OF SEDIMENTS IN COASTAL AREAS	Dr. Per Bruun, Laboratory of Coastal Engr., University of Florida, Gainesville, Fla.
	Bruun, P. "Seminar on Sedimentation Problems." 11th Int'l. Conf. on Hydraul. Research. Leningrad, 1965.	
WP-00059	IMPOUNDMENT STUDIES ON THE RARITAN RIVER, NEW JERSEY	Dr. Francesco B. Trama, Dept. of Zoology, Rutgers University, New Brunswick, N. J.
	Trama, F. B. "The Interrelationship of Organic Nitrogen, Protein, Chlorophyll and Total Organic Content of Fluvial Seston." Ecol. Soc. of America, AAAS Meet., Berkeley, Calif., 1965.	
WP-00061	GLUCOSE UTILIZATION BY PURE AND MIXED CULTURES	Dr. Gerard A. Rohlich, Dept. of Civil Engr., University of Wisconsin, Madison, Wisconsin
	Crabtree, K. "Morphological and Biochemical Studies of Zoogloea ramigera Species in Pure Culture." Ph.D. Thesis, U. of Wisc., 1965.	
	Crabtree, K., McCoy, E., Boyle, W. C. and Rohlich, G. A. "Isolation, Identification, and Metabolic Role of the Sudanophilic Granules of Zoogloea ramigera." Appl. Microbiol. 13:218. 1965.	

GRANT NO.	PROJECT TITLE AND PUBLICATIONS	PROJECT DIRECTOR AND LOCATION
WP-00061 Cont.	GLUCOSE UTILIZATION BY PURE AND MIXED CULTURES	Dr. Gerard A. Rohlich, Dept. of Civil Engr., University of Wisconsin, Madison, Wisconsin
	*Morand, J. "Physical Factors Affecting Size of Bacterial Floc." Ph.D. Thesis, U. of Wisc., 1964.	
WP-00064	REMOVAL OF ALGAL NUTRIENTS FROM SEWAGE WITH LIME	Dr. Clair N. Sawyer, Senior Associate and Research Director, Metcalf and Eddy, Boston, Massachusetts
	*Sawyer, C. N. and Buzzell, J. C. "Removal of Algal Nutrients from Raw Sewage With Lime." Terminal Report, Dec. 31, 1962.	
WP-00065	TRICKLING FILTER EFFLUENT QUALITY CONTROL BY O. R. P.	Professor J. David Eye, Dept. of Civil Engineering, University of Cincinnati, Cincinnati, Ohio
	Ahn, K. "Evaluation of a Platinized Platinum Electrode System for ORP Measurements." Prog. Report, U. of Cincinnati, 1965.	
	*Hubiak, R. J. "The Use of ORP for Evaluating the Effluent Quality of Trickling Filters." M. S. Thesis, U. of Cincinnati, 1963.	
	*Kaufman, C. F. "Trickling Filter Effluent Quality Control by ORP." M. S. Thesis, U. of Cincinnati, 1962.	
WP-00067	THE RESISTANCE OF FISH TO REFINERY EFFLUENTS	Dr. William H. Irwin, Dept. of Zoology, Oklahoma State University, Stillwater, Oklahoma
	Irwin, W. H. "Fifty-seven Species of Fish in Oil Refinery Waste Bioassay." Trans. 30th No. Am. Wildlife and Nat. Resources Conf., March 1965.	
WP-00070	MOVEMENT OF WATER FROM WASTE RECHARGE INSTALLATIONS	Dr. Don Kirkham, Dept. of Agronomy, Iowa State University, Ames, Iowa
	Asseed, M. S. and Kirkham, D. "Depth of Barrier and Water Table Fall in a Tile Drainage Model." Soil Sci. Soc. Amer. Proc. 31 (3), May-June, 1965.	
	Toksoz, S., Kirkham, D. and Baumann, E. R. "Two-dimensional Infiltration and Wetting Fronts." J. Irr. Drainage Div., Proc. ASCE, Vol. 91, No. IR 3, Sept. 1965.	
	Warrick, A. W. and Kirkham, D. "Proof of an Infinite Series in Tangents and Cotangents." Proc. Iowa Academy of Science, Vol. 72, 1965.	

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GRANT NO.	PROJECT TITLE AND PUBLICATIONS	PROJECT DIRECTOR AND LOCATION
WP-00071	MECHANICS OF AERATION AND DISPERSION IN RIVER POLLUTION	Dr. Donald R. F. Harleman, Dept. of Civil Engineering, Massachusetts Institute of Technology, Cambridge, Massachusetts
	Holley, E. R. and Harleman, D. R. F. "Dispersion of Pollutants in Estuary Type Flows." MIT Hydrodynamics Lab. Tech. Rept. No. 74, Jan. 1965.	
WP-00074	KINETICS OF OXIDATION OF SULFITES BY DISSOLVED OXYGEN	Dr. M. C. Rand, Dept. of Civil Engineering, Syracuse University Research Institute, Syracuse, New York
	Rand, M. C. and Gale, S. B. "Kinetics of Oxidation of Sulfites by Dissolved Osygen." 4th Rudolfs Research Conf., Rutgers U., June 1965.	
WP-00075	RESPONSE OF ACTIVATED SLUDGE TO ORGANIC SHOCK LOADS	Dr. A. F. Gaudy, Dept. of Civil Engineering Oklahoma State University, Stillwater, Okla.
	Komolrit, K. "Biochemical Response of Activated Sludge Processes to Organic Shock Loads." Ph.D. Thesis, Okla. State U., May 1965.	
	Krishnan, P. and Gaudy, A. F. Jr. "Studies on the Response of Activated Sludge to Shock-loadings." Biotech. and Bioengr., VII, 455-470, 1965.	
WP-00077	EFFECT OF ORGANIC SUBSTANCES FROM SEA ON BACTERIA	Dr. G. E. Jones, Dept. of Biology, University of California, La Jolla, California
	Friend, C. C. and Jones, G. E. "Conditions Causing Pigment Production in Pseudomonas nigrifaciens, a Marine Isolate." Bacteriol. Proc. p. 91. 1965.	
	Jones, G. E. "The Living Economy of the Sea." Bull. Atomic Scientists, March 1965.	
WP-00080	THE ROLE OF ANIMAL FECAL FLORA IN STREAM POLLUTION	Dr. S. M. Morrison, Dept. of Pathology and Microbiology, Colorado State University, Fort Collins, Colorado
	*Fair, J. F. "An Application of a Modified Membrane Filter Technique for the Demonstration of Enteric Pathogens in Raw Surface Waters." M. S. Thesis. Colorado State U., 1963.	
	*Hendricks, C. W. "A Study of a Phenomenon of Strain Alteration in Enteric Bacteria Isolated from River Water." M. S. Thesis. Colorado State U., 1964.	
WP-00081	SOIL INTERACTION WITH ORGANICALLY POLLUTED WATER	Professor James W. Biggar, Dept. of Water Science and Engineering, University of California, Davis, California
	Biggar, J. W., Dutt, G. R. and Riggs, R. L. "Solubility of p, p' - DDT in Water by Gas Chromatography." J. Food and Agr. Chem., 1965.	
	Biggar, J. W., Jackson, R. K. and Hornsby, A. G. "Self-diffusion of p, p' - DDT in Clay-dioxane and Water Systems." Calif. Exp. Sta. Report No. 2, 1965.	

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GRANT NO.	PROJECT TITLE AND PUBLICATIONS	PROJECT DIRECTOR AND LOCATION
WP-00081 Cont.	SOIL INTERACTION WITH ORGANICALLY POLLUTED WATER	Professor James W. Biggar, Dept. of Water Science and Engineering, University of California, Davis, California

Biggar, J. W. and Nielsen, D. R. "Miscible Displacement and Leaching Phenomenon." Amer. Soc. of Agron. Monograph on Irr. of Agric. Lands, 1965.

Biggar, J. W. and Riggs, R. L. "Solubility-Temperature Interactions for Chlorinated Hydrocarbons in Water." Report to West Regional Res. Comm., Oct. 1965.

Riggs, R. L. and Biggar, J. W. "Ultrasonic Suspension of Chlorinated Pesticides in Aqueous Media." Soil Sci. Soc. Amer. Proc. 29(5):629, 1965.

WP-00082	PEARL RIVER FISHES-INDEX PRE-POLLUTION SURVEYS	Dr. R. D. Suttkus, Dept. of Zoology, Tulane University, New Orleans, Louisiana

Ramsey, J. S. and Suttkus, R. D. "Etheostoma ditrema, a New Darter of the Subgenus Oligocephalus (Percidae) from Springs of the Alabama River Basin in Alabama and Georgia." Tulane Studies in Zoology, Vol. 12, No. 3, June 23, 1965.

Suttkus, R. D. and Taylor, W. R. "Noturus munitus, a New Species of Madtom, Family Ictaluridae, from Southern United States." Proc. Biol. Soc. of Washington, Vol. 78, Oct. 8, 1965.

WP-00083	AMINO ACID FORMATION IN ANAEROBIC SLUDGE DIGESTION	Dr. Joseph F. Malina, Dept. of Civil Engr., University of Texas, Austin, Texas

Miholits, E. M. and Malina, J. F. Jr. "Uptake and Utilization of Amino Acids During Anaerobic Digestion." Tech. Report EHE-11-6505, CRWR-11. U. of Texas, Nov. 1965.

Woods, C. E. and Malina, J. F. Jr. "Stage Digestion of Wastewater Sludge." J. Water Pollution Control Fed., Vol. 37, No. 11, Nov. 1965.

WP-00097	LOCATION OF CHARGE AND CHEMICAL PROPERTIES OF CLAYS	Professor M. E. Harward, Dept. of Soils, Oregon State University, Corvallis, Oregon

Harward, M. E. and Brindley, G. W. "Swelling Properties of Synthetic Smectites in Relation to Lattice Substitutions." Clays and Clay Minerals, (Proc. 13th National Conf., Madison, Wisc., Oct. 5-8, 1964) 1965.

Sayegh, A. H., Harward, M. E. and Knox, E. G. "Humidity and Temperature Interaction with Respect to K-saturated Expanding Clay Minerals." Amer. Mineralogist, Vol. 50, March - April, 1965.

WP-00098	CHEMICAL ASPECTS OF COAGULATION	Dr. Werner Stumm, Div. Engineering and Applied Physics, Harvard University, Cambridge, Massachusetts

*Stumm, W. and Tenney, M. W. "Waste Treatment for the Control of Heterotrophic and Autotrophic Activity in Receiving Water." Proc. 12th So. Mun. and Indust. Waste Conf., Raleigh, N. C., April 10-11, 1963.

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GRANT NO.	PROJECT TITLE AND PUBLICATIONS	PROJECT DIRECTOR AND LOCATION
WP-00098 Cont.	CHEMICAL ASPECTS OF COAGULATION	Dr. Werner Stumm, Div. of Engineering and Applied Physics, Harvard University, Cambridge, Massachusetts
	Tenney, M. W. "Flocculation of Microorganisms." Sc.D. Thesis, MIT, 1965.	
	Tenney, M. W. and Stumm, W. "Chemical Flocculation of Microorganisms." J. Water Pollution Control Fed., Vol. 37, 1371, 1965.	
WP-00099	REDUCING SECONDARY EFFLUENT PHOSPHORUS CONCENTRATION	Dr. Joseph Shapiro, Dept. of Sanitary Engineering, Johns Hopkins University, Baltimore, Maryland
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WP-00221 Cont.	ECOLOGY OF DIATOMS IN HARD-WATER HABITATS	Dr. John D. Dodd, Dept. of Botany and Pathology, Iowa State University of Science and Technology, Ames, Iowa

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WP-00224 Cont.	THE SULFUR RELATIONSHIPS OF MICROORGANISMS	Dr. James B. Lackey, Dept. of Civil Engineering, University of Florida, Gainesville, Florida

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WP-00239	THE BIOLOGY AND CHEMISTRY OF SPHAEROTILUS	Dr. J. L. Stokes, Department of Bacteriology and Public Health, Washington State University, Pullman, Washington
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WP-00239 Cont.	THE BIOLOGY AND CHEMISTRY OF SPHAEROTILUS	Dr. J. L. Stokes, Dept. of Bacteriology and Public Health, Washington State University, Pullman, Washington
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WP-00515	ODOR PRODUCING SUBSTANCES OF ACTINOMYCETES	Dr. Hubert A. Lechevalier, Institute of Microbiology, Rutgers University, New Brunswick, N. J.
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WP-00575	TRANSVERSE DISPERSION OF CONTAMINANT IN GROUND WATER	Dr. Wen-Hsiung Li, Department of Civil Engineering, Syracuse University, Syracuse, New York
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WP-00588	ECOLOGY OF SPHAEROTILUS IN ACTIVATED SLUDGE	Dr. Wesley O. Pipes, Department of Civil Engineering, Northwestern University, Evanston, Illinois
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WP-00649	ESTUARINE WATER QUALITY INTERRELATIONSHIPS	Dr. Robert E. Selleck, Department of Civil Engineering, University of California, Berkeley, California
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WP-00650	EFFECT OF ORGANIC SUBSTANCES FROM SEA ON BACTERIA	Dr. Galen E. Jones, Department of Biology, Boston University, Boston, Mass.
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WP-00675	STRUCTURE AND FUNCTION OF A NEW SULFOLIPID	Dr. Thomas H. Haines, Department of Chemistry, City College Research Foundation, New York, New York

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Keyterms in this index refer to either the project title or publications listed under the designated grant. If specific or narrow subjects are desired, two or more keyterms may be combined to eliminate the non-specific references. For example, Industrial wastes gives twelve references, while Petrochemical Industrial wastes gives only two.

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	Suspended matter – see Solids, suspend

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WP-00224	Taxonomy
WP-00521	
WP-00009	Temperature
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WP-00003	Toxicity
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WP-00477	
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WP-00646	Trace elements
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